# Circles - Class XI

## Related Questions with Solutions

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## Questions

### Quetion: 01

A circle passes through (–2, 4) and touches the *y*-axis at (0, 2). Which one of the following equations can represent a diameter of this circle?
A. $2x – 3y + 10 = 0$
B. $3x + 4y – 3 = 0$
C. $4x + 5y – 6 = 0$
D. $5x + 2y + 4 = 0$

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## Solutions

### Solution: 01

Equation of circle with centre $(h, k)$ and touches $y$-axis is given by
$x^2 + y^2 - 2hx - 2ky + k^2 = 0$
Since, it touches $y$-axis at $(0, 2) \therefore k = 2$
$\Rightarrow x^2 + y^2 - 2hx - 4y + 4 = 0$
Also, it passes through [–2, 4]
$\therefore \quad (-2)^2 + 4^2 - 2h(-2) - 4(4) + 4 = 0$
$\Rightarrow 4 + 16 + 4h - 16 + 4 = 0 \Rightarrow h = -2$
Hence, centre of circle is [–2, 2]
[–2, 2] satisfy the equation given in option [a].
So, diameter of circle is $2x – 3y + 10 = 0$.

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## Correct Options

### Answer:01
### Correct Options: A